

# **Exhibit I**

# Wireless Fabric Connectivity Solutions





# Cambium Networks' Wireless Fabric



GLOBAL SUPPORT

# Breakthrough Technologies

## Cloud and Network Management

### LINKPlanner

- Free, network design tool for RF environments
- Tens of thousands of links deployed



### cnMaestro

- Cloud management
- Secure, end-to-end network control



### cnArcher

- Free android app
- Allows field techs to configure PMP networks



## Point-to-Point

### PTP 650/670

- Launched in November 2013/2017
- Replacement for legacy PTP 600 which was the “gold standard” for almost a decade



### PTP 550

- Launched January 2018
- Exceptional headline data rate (1.4 Gbps)



## Point-to-Multipoint

### cnMedusa (PMP 450m)

- Launched in September 2016
- Breakthrough 14x14 Massive MU-MIMO
- Will drive continued PMP growth for next several years



### PMP 450i

- Launched in September 2012/2016
- Long awaited replacement to flagship PMP product line
- Top performing Cambium product



## ePMP

### ePMP 1000/2000

- Launched in October 2013
- High quality, affordable platform



### ePMP 3000

- Launching December Q2 2018
- 4x4 MU-MIMO & 80 MHz Channel Support
- Higher Capacity and Spectral Efficiency



## Wi-Fi

### cnPilot e4/5/6xx

- Launched in July 2015, cloud-savvy
- Affordable yet uncompromising quality



### cnPilot e430W

- Launching Q1 2018
- Wall Plate AP for Hospitality
- Managed Service Provider enabler





# cnPilot Wi-Fi Portfolio Overview

Provide seamless indoor and outdoor Wi-Fi with field proven solutions that meet capacity needs.



**r190W**



**r190V**



**e410**



**e600**



**e500**



**e430W**
















Key Statement	Indoor residential and small to medium business Wi-Fi access		Enterprise indoor access points		Enterprise outdoor access point with options for antenna coverage: <ul style="list-style-type: none"> <li>E500 - omnidirectional</li> <li>e501S - 90° - 120°</li> <li>e502S - 30°</li> </ul>	Enterprise wall plate
Typical Application	Indoor Wi-Fi coverage <ul style="list-style-type: none"> <li>Residential</li> <li>Small and medium business</li> </ul>		Enterprise Wi-Fi coverage for indoor locations: <ul style="list-style-type: none"> <li>Enterprise</li> <li>Hospitality</li> <li>Industry</li> <li>Public Wi-Fi</li> <li>Retail</li> </ul>		Wi-Fi coverage for outdoor areas <ul style="list-style-type: none"> <li>Enterprise</li> <li>Hospitality</li> <li>Industry</li> <li>Public Wi-Fi</li> </ul>	Hospitality
Wi-Fi Standard	802.11n	802.11n	802.11ac Wave 2	802.11ac Wave 2	802.11ac	802.11ac Wave 2
Frequency	2.4 and 5 GHz		2.4 and 5 GHz		2.4 and 5 GHz	
Max Throughput	300 Mbps	300 Mbps	867 Mbps	1.3 Gbps	1.01 Gbps	1.01 Gbps
Tx Power	24 dBm	24 dBm	24 dBm at 2.4 GHz 25 dBm at 5 GHz	24 dBm at 2.4 GHz 28 dBm at 5 GHz	29 dBm at 2.4 GHz 28 dBm at 5 GHz	22 dBm at 2.4 GHz 21 dBm at 5 GHz
Concurrent Users	64	64	256	512	256	256
SSID	4	4	16	16	16	16
Mesh Capability	No	No	Yes	Yes	Yes	Yes
Ethernet ports	4 LAN 1 WAN	4 LAN 1 WAN	1 LAN	2 LAN	2 LAN	3 LAN 1 LAN + PoE
Roaming	No	No	Yes	Yes	Yes	Yes

# PMP 450 Platform Overview



	Access Points			Subscriber Modules		
	450m cnMedusa	450i	450	450b	450i	450
Frequency Bands	3 GHz*, 5 GHz	900 MHz, 3 GHz, 5 GHz	2.4 GHz	3 GHz*, 5 GHz	3 GHz, 5 GHz	900 MHz, 2.4 GHz
Channel Size	5 7 10 15 20 30 40 MHz	5 7 10 15 20 30 40 MHz	5 10 15 20 30 40 MHz	5 7 10 15 20 30 40 MHz	5 7 10 15 20 30 40 MHz	5 7 10 15 20 30 40 MHz
Physical Layer	14 x 14 MU-MIMO / OFDM	2 x 2 MIMO / OFDM	2 x 2 MIMO / OFDM	2 x 2 MIMO / OFDM	2 x 2 MIMO / OFDM	2 x 2 MIMO / OFDM
Interface	Gigabit, SFP 2 <sup>nd</sup> Ethernet port PoE out	Gigabit 2 <sup>nd</sup> Ethernet port PoE out	100 Mbit	Gigabit	Gigabit 2 <sup>nd</sup> Ethernet port PoE out	100 Mbit
Environmental	IP 67, IP 66	IP 67, IP 66	IP 67, IP 66	IP 55 (Mid-gain), IP 67 (High Gain)	IP 67, IP 66	IP 55
Latency	7-10 ms	3-5 ms	3-5 ms	3-5 ms	3-5 ms	3-5 ms
Performance	1.2 Gbps+	300+ Mbps	200+ Mbps	300+ Mbps	300+ Mbps	100+ Mbps
Powering Methods	56V PoE Cambium Proprietary	30V PoE 802.3af	30V PoE Cambium Proprietary Standard PoE Pinouts	30V PoE Cambium Proprietary Standard PoE Pinouts	30V PoE Cambium Proprietary Standard PoE Pinouts	30V PoE Cambium Proprietary Standard PoE Pinouts
Power Consumption	85 W Max, 70 W Typical	19 W Max, 16 W Typical	15 W max, 12 W typical	12 W max, 9 W typical	19 W max, 16 W typical	12 W max, 9 W typical
Max Power	+42 dBm EIRP	+44 dBm EIRP +27 dBm Tx Power	+22 dBm Tx Power	+44 dBm EIRP (mid-gain) +51 dBm EIRP (High gain)	+50 dBm EIRP +27 dBm Tx Power	+22 dBm Tx Power
Antenna	90°/120° Sector	90°/120° Sector: 17 dBi  Connectorized or external 60° Sector Antenna (900 MHz)	Connectorized or external 60° Sector Antenna	17 dBi: Mid-Gain 24 dBi: High Gain (5 GHz) 19 dBi: High Gain (3 GHz)*	23 dBi (5 GHz) 19 dBi (3 GHz) Integrated Flat Panel	9 dBi: Integrated (2.4 GHz)  Connectorized or external 12 dBi Yagi (900 MHz)
SMs Supported Per Sector	238	238	238			

# ePMP™ Portfolio Overview

	ePMP 1000		2.4 GHz		ePMP 1000				5 GHz			ePMP 2000 5 GHz	ePMP 3000		5 GHz			
																		
	GPS Sync Radio	Connectorized	Integrated	Force 200	GPS Sync Radio	Connectorized	Bridge-in-a-Box	Force 180	Force 190	Force 200	Access Point with Intelligent Filtering and Sync	CSM 300	Force 300-16	Force 300-25	Access Point with MU-MIMO			
												Q2/18	Q2/18	Q4/17	Q2/18			
	Connectorized   Integrated		GPS Sync Radio		Bridge-in-a-Box		Force 180		Force 190		Force 200		Access Point with Intelligent Filtering		Force 300-16 Force 300-25 CSM 300		Access Point with MU-MIMO	
Frequency Band(s)	2.4 GHz, 5 GHz 2.4/2.5 GHz (Brazil, NZ) 6.4 GHz (Russia)		2.4 GHz, 5 GHz		5 GHz		5 GHz		5 GHz		2.4 GHz, 5 GHz		solution with beam steering, intelligent 5 GHz		5 GHz		5 GHz	
Channel Size	5 10 20 40 MHz		5 10 20 40 MHz		5 10 20 40 MHz		5 10 20 40 MHz		5 10 20 40 MHz		5 10 20 40 MHz		5 10 20 40 MHz		20   40   80 MHz		20   40   80 MHz	
Physical Layer	2 x 2 MIMO / OFDM 802.11n – 64QAM		2 x 2 MIMO / OFDM 802.11n – 64QAM		2 x 2 MIMO / OFDM 802.11n – 64QAM		2 x 2 MIMO / OFDM 802.11n – 64QAM		2 x 2 MIMO / OFDM 802.11n – 64QAM		2 x 2 MIMO / OFDM 802.11n – 64QAM		2 x 2 MIMO / OFDM 802.11n – 64QAM		2 x 2 MIMO / OFDM 802.11ac Wave 2 256QAM		4 x 4 MIMO / OFDM 802.11ac Wave 2 256QAM	
Interface	100 Mbit 2 <sup>nd</sup> Ethernet port PoE out		Gigabit		Gigabit		Gigabit		100 Mbit		Gigabit		Gigabit		Gigabit		Gigabit/SFP	
Environmental	IP55		IP55		IP55		IP55		IP55		IP55		IP55		IP55		IP55	
Latency	15~17ms		5~7ms		15~17ms		5~7ms		2~3ms		2~3ms		5~7ms		5~7ms		5~7ms	
Performance	200+ Mbps		200+ Mbps		200+ Mbps		200+ Mbps		200+ Mbps		200+ Mbps		200+ Mbps		600+ Mbps		1+ Gbps	
Powering Methods	30V PoE Cambium Proprietary		30V PoE 802.3af		30V PoE Cambium Proprietary Standard PoE Pinouts		30V PoE Cambium Proprietary Standard PoE Pinouts		30V PoE Cambium Proprietary Standard PoE Pinouts		30V PoE Cambium Proprietary Standard PoE Pinouts		56V PoE 802.3at		30V PoE		56V PoE 802.3at	
Power Consumption	7 W max, 5 W typical		10 W max, 7.5 W typical		10 W max, 5 W typical		10 W max, 5 W typical		8 W max, 5 W typical		10 W max, 5 W typical		20 W max		12 W		21 W max	
Max Tx Power	+30 dBm		+30 dBm		+30 dBm		+30 dBm		+27 dBm		+30 dBm		+30 dBm		+27 dBm		MCS0, VHT80: +25 dBm MCS9, VHT80: +21 dBm	
Antenna	Integrated: 2.4 GHz – 11 dBi 5 GHz – 14 dBi Connectorized: 3 <sup>rd</sup> party		90°/120° Sector: 18 dBi or 3 <sup>rd</sup> party antenna		Integrated: 16 dBi		Integrated: 16 dBi		Dish: 22 dBi		Dish: 2.4 GHz - 17 dBi 5 GHz – 25 dBi		90/120° Sector: 17dBi Optional Beamforming		300-16: Integrated 16 dBi 300-25: Dish 25 dBi CSM 300: RP-SMA		90/120° Sector: 17 dBi 4 x 4 MU-MIMO Optional Beamforming	
Modes	AP: 120 Subscribers SM PTP		AP: 120 Subscribers PTP		Bridge-in-a-Box: PTP		SM PTP		SM PTP		SM PTP		AP: 120 Subscribers PTP		SM PTP		AP: 120 Subscribers PTP	

ePMP elevate

Typical Application	Saving the cost and time of a total network replacement, an operator simply installs an ePMP Access Point and loads ePMP Elevate software onto their deployed subscriber modules.
Products Supported	<ul style="list-style-type: none"><li>For Ubiquiti® XW/XM and Mikrotik SXT5-Lite Devices</li></ul>

ePMP 2000  
2.4 & 5 GHz



Access Point with Intelligent Filtering  
and Sync

Industry's most affordable filtering and all the benefits of GPS sync	
Access Point with Intelligent Filtering	
Frequency Band(s)	2.4 & 5 GHz
Channel Size	5 10 20 40 MHz
Physical Layer	2 x 2 MIMO / OFDM 802.11n – 64QAM
Interface	Gigabit
Performance	200+ Mbps
Powering Methods	56V PoE 802.3at
Power Consumption	20 W max
Max Tx Power	+30 dBm
Antenna	90/120° Sector: 17dBi Optional Beamforming 3rd party horn
Modes	<b>AP:</b> 120 Max Subscribers GPS synchronized <b>PTP</b> Scheduling: ePTP   TDD   Flexible



# cnReach / IIoT Overview

Simplify the migration to an all-IP network and maximize the use of spectrum while reducing operating costs



**N500 900 MHz**



**N500 700 MHz**



**N500 450 MHz**



**N500 220 MHz**







**N500 I/O Expander**

Key Statement	For outdoor critical infrastructure operations, cnReach transports process monitoring and control data from the remote sensor or PLC/RTU back to the operations center supporting real-time automated decision making and on-going analytics. Covering large geographic areas, hard to reach terrain and challenging spectrum environments, cnReach delivers reliable, secure connectivity to the petrochemical, electric utility, water/wastewater/stormwater, rail and transportation industries. cnReach eases the migration to modern networks by combining legacy serial and analog/digital I/O with TCP/IP and Ethernet connectivity.				
Region	NA/CALA/Australia/NZ	US	Global	US	Global
Frequency Bands	ISM mode: 902 - 928 MHz; (915-928 MHz in Australia) MAS mode: 928 - 960 MHz	757-758 MHz and 787-788 MHz	406 – 430 MHz and 450 – 470 MHz	217 – 222 MHz	
Channel Size	ISM: 76 / 154 / 207 / 310 / 600 / 1200 kHz MAS: 12.5 / 25 / 50 kHz	12.5, 25, 50, 100, 200, 250 kHz	12.5 / 25 kHz ( 50 / 100 kHz available regulations permitting)	12.5 / 15 / 25 / 50 / 100 / 200 kHz	
Modulations	MSK / 2FSK / BPSK / QPSK / 8PSK / 16PSK / 16QAM / 32QAM	MSK / QPSK / 8PSK / 16QAM / 32QAM	MSK / QPSK / 8PSK / 16QAM / 32QAM	MSK / QPSK / 8PSK / 16QAM / 32QAM	
Max Tx Power	Up to 1 W (30 dBm) (ISM) Up to 4 W (36 dBm) (MAS)	Up to 10W (40 dBm)	FCC: 406.1 - 430 MHz (up to 2 W / 33 dBm); 450-470 MHz (up to 8 W / 39 dBm); ETSI: Up to 8W (39 dBm)	217-220: Up to 2W 220-222 Up to 5W	
Adaptive modulation	Yes	Yes	Yes	Yes	
Security	128/256-bit AES encryption and secure management interfaces (HTTPS, SNMPv3)				
Interfaces	Two Ethernet Two Serial (RS-232/422/485) Optional Analog/Digital GPIO	Two Ethernet Two Serial (RS-232/422/485) Optional Analog/Digital GPIO	Two Ethernet Two Serial (RS-232/422/485) Optional Analog/Digital GPIO	Two Ethernet Two Serial (RS-232/422/485) Optional Analog/Digital GPIO	Two Ethernet Two Serial (RS-232/422/485) Analog/Digital GPIO
LINKPlanner	Y	Y	Y	Y	
cnMaestro	Y	Y	Y	Y	

Cambium Networks offers a complete set of accessories for cnReach including power supplies, antennas and adaptors.

# Licensed Microwave Overview

	FULL OUTDOOR		SPLIT MOUNT	
				
	<b>PTP820S</b>	<b>PTP820C</b>	<b>PTP820G + RFU-C</b>	<b>PTP820G + RFU-A</b>
Frequency Band	6 – 38 GHz	6 – 38 GHz	6 – 38 GHz	6, 11 GHz
Channel Size	3.5 - 80 MHz	3.5 - 80 MHz	3.5 - 60 MHz	3.5 - 60 MHz
Number of Carriers	Single	Dual	Single and Dual	Single and Dual
XPIC	Not Supported	Supported	Supported	Supported
MIMO	Not Supported	2x2 / 4x4 MIMO	Not Supported	Not Supported
Traffic Interface	1 x 10/100/1000 Base T (RJ 45)	1 x 10/100/1000 Base T (RJ 45)	4 x 10/100/1000 Base T (RJ 45)	4 x 10/100/1000 Base T (RJ 45)
	2 x 1000 BaseX - SFP	1 x 1000 BaseX - SFP	2 x 1000 BaseX - SFP	2 x 1000 BaseX - SFP
MTU	9600 Bytes	9600 Bytes	9600 Bytes	9600 Bytes
QoS	VLAN ID, p-bits, IPv4, DSCP, IPv6 TC, MPLS EXP	VLAN ID, p-bits, IPv4, DSCP, IPv6 TC, MPLS EXP	VLAN ID, p-bits, IPv4, DSCP, IPv6 TC, MPLS EXP	VLAN ID, p-bits, IPv4, DSCP, IPv6 TC, MPLS EXP
	8 priority queues	8 priority queues	8 priority queues	8 priority queues
	configurable up to 64 Mbit per queue	configurable up to 64 Mbit per queue	configurable up to 64 Mbit per queue	configurable up to 64 Mbit per queue
Configuration	1+0	1+0 to 4+0	1+0 to 2+0	1+0 to 2+0
	1+1 HSB	1+1 / 2+2 HSB	1+1 / 2+2 HSB	1+1 / 2+2 HSB
	2+0, Non-XPIC	2+0 XPIC	2+0 XPIC	2+0 XPIC
		2+2 SD	1+1 HSB with SD	1+1 HSB with SD
Performance (Layer 2)	596 Mbps - No Compression	1.2 Gbps - No Compression	1 Gbps - No Compression	1 Gbps - No Compression
	833 - Multi-Layer Compression	2 Gbps - Multi-Layer Compression	2 Gbps - Multi-Layer Compression	2 Gbps - Multi-Layer Compression
Modulation	QPSK to 2048 OAM w/ACM	QPSK to 2048 OAM w/ACM	QPSK to 2048 OAM w/ACM	QPSK to 2048 OAM w/ACM
Multi Carrier Link Aggregation	N/A	MC-ABC	MC-ABC	MC-ABC
Power Consumption	6-11 GHz: 40W	6 & 11 GHz: 65W	IDU: 23.5W(single modem)	IDU: 23.5W(single modem)
		7 GHz: 75W	IDU: 26.4W(Dual modem)	IDU: 26.4W(Dual modem)
	13-38 GHz: 35W	13-15 GHz & 26-38 GHz: 55W	RFU-C 6-26 GHz: 22W (1+0), 39W (1+1)	RFU-Ae: 77W (1+0), 101W(1+1)
		18-24 GHz: 48W	RFU-C 28-38 GHz: 26W (1+0), 43W (1+1)	RFU-Aep: 90W (1+0), 114W(1+1)
Maximum Tx Power	29 dBm	28 dBm	26 dBm	35 dBm

# Point to Point Sub 6 GHz: Product at a Glance



	Bridge-in-a-Box	F300-25	PTP 450	PTP 450i	PTP 550 (Dual Carrier)	PTP 670
Frequency Range (GHz)	4.9 to 5.97	5.15 to 5.97	3.5 /3.65/ 5.4 to 5.8 GHz	4.90 to 5.925	5.15 – 5.97	4.9 to 6.05
Channel BW (MHz)	5/10/20/40	20/40/80	5/10/20/30	5/10/15/20/30/40	2x 20/40/80	5/10/15/20/30/40/45
Technology	802.11n	802.11ac Wave 2	Proprietary	Proprietary	802.11ac Wave 2	Proprietary
Line of Sight	LoS	LoS	LoS	LoS	LoS	LoS, nLoS, NLoS
Environmental	IP55	IP55	IP55	IP66/67	IP66/67	IP66/67
Latency	3-6 ms	3-6 ms	3-5 ms	3-5 ms	3-5 ms	1-3 ms
Performance	200 Mbps	600 Mbps	300 Mbps	300 Mbps	1.4 Gbps	450 Mbps
Top Modulation	64 QAM	256 QAM	256 QAM	256 QAM	256 QAM	256 QAM
Max Frame Size	1700 Bytes	1700 Bytes	1700 Bytes	1700 Bytes	1700 Bytes	9600 Bytes
Spectrum Management	Standby Spectrum Analyzer	Live Spectrum Analyzer	Standby Spectrum Analyzer	Standby Spectrum Analyzer	Dynamic Channel Selection	Dynamic Spectrum Optimization (DSO)
Dynamic Filter	No	No	No	Yes	No	No
IEEE 1588v2 & SyncE	No	No	No	No	No	Yes
TDD Sync	No	No	Yes	Yes	Yes	Yes
Encryption	AES 128	AES 128	AES 128	AES 128	AES 128	AES 128/AES 256
QOS	3 Level	3 Level	2 Level	4 Level	3 Level	8 Levels
Power Consumption	7W	12 W	12 W	< 25 W	< 25 W	<30 W
Max Tx Power	30 dBm	27 dBm	22 dBm	27 dBm	27 dBm	27 dBm
Integrated Antenna	16 dBi	25 dBi or 16 dBi	14 dBi	23 dBi	23 dBi	23 dBi



# Planning and Management Overview



LINKPlanner

Quickly design networks for optimal deployment and cost effectiveness with ease.



cnArcher

Raise the bar on installation accuracy with cnArcher™, the free Android app that gives field techs the information they need to configure and properly align Cambium Networks PMP wireless broadband subscriber modules.



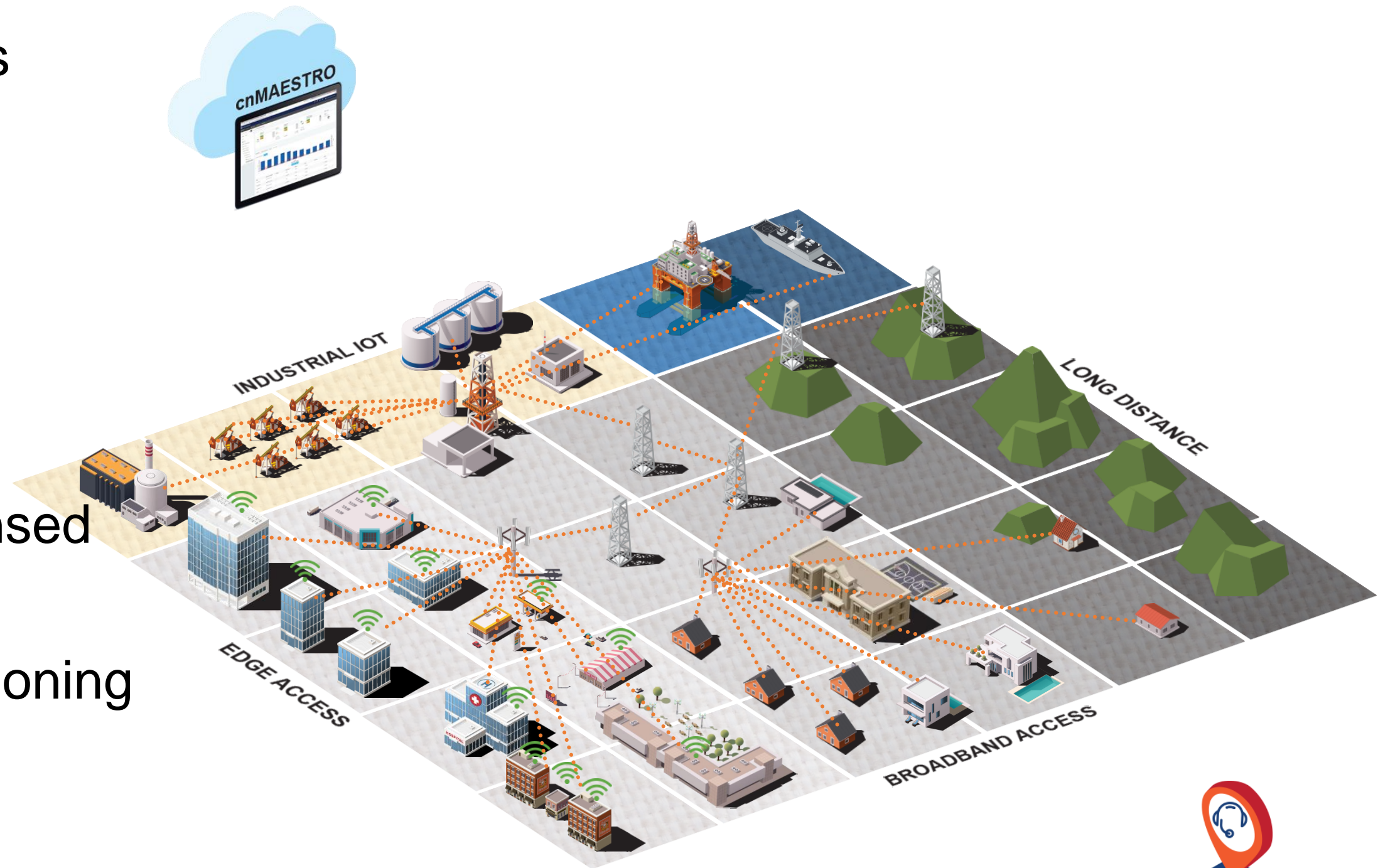
cnMaestro

cnMaestro™ is a cloud-based or on-premises software platform for secure, end-to-end network control.

Typical Application	<p>LINKPlanner allows you to model scenarios – based on geography, distance, antenna height, transmit power, and other factors – to optimize system performance before purchase. Quickly design networks for optimal deployment and cost effectiveness with ease. Available for Microsoft® Windows® and Mac® systems, LINKPlanner is a free, user-friendly link-design tool.</p>	<p>Designed with input from field technicians and years of experience on our millions of wireless broadband modules deployed, cnArcher validates configuration and alignment in seconds.</p> <p>Increase the number of installs done right the first time, and increase customer satisfaction. Eliminate problems, and focus your manpower on connecting new subscribers as your network grows.</p>	<p>cnMaestro wireless network manager simplifies device management by offering full network visibility. View and perform a full suite of wireless network management functions in real time. Optimize system availability, maximize throughput, and meet emerging needs of business and residential customers.</p>
Products Supported	<ul style="list-style-type: none"> <li>cnPilot</li> <li>ePMP</li> <li>PMP</li> <li>PTP</li> <li>cnReach</li> </ul>	<ul style="list-style-type: none"> <li>PMP</li> </ul>	<ul style="list-style-type: none"> <li>cnPilot</li> <li>ePMP</li> <li>cnReach</li> </ul>

# Cambium Networks Wireless Network Fabric

- People Places Things
- Purpose Built
- 2m to 246km
- Kb to Mb to Gb
- Indoor and Outdoor
- PTP PMP Wi-Fi LTE
- Licensed and Unlicensed
- Scalable
- Concept to Commissioning
- Single Pane of Glass



GLOBAL SUPPORT



# Resilient, Efficient, Affordable Wireless Connectivity Solutions

